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ABSTRACT

A study was conducted of post-graduation activities of 1974 graduates of the sixteen constituent institutions of the University of North Carolina (UNC). Data was gathered on what the graduates were doing one-and-a-half years after graduation. The study provided information about their employment situation, their job satisfaction and the general use of "underemployment," and their assessment of the effectiveness of the curriculum and of various services at their alma mater. Some of the findings include the following: (1) graduates of UNC institutions seemed to be well satisfied with their educational experiences and with their jobs; (2) the unemployment rate for UNC graduates is, in the aggregate the same as that for young college graduates nationally; (3) significant and sizable earnings and employment differentials exist between male and female graduates; (4) bachelor's graduates of the five predominantly black institutions reported starting salaries either the same as or slightly higher than the salaries of graduates of the traditionally white master's-and bachelor's-granting campuses; (5) most graduates learned about their jobs either through direct contact with their employers or through friends and relatives; (6) about 16% of all the 1974 bachelor's graduates were continuing their formal education; and (7) students completing their baccalaureate degrees scored higher as a group on standardized tests than students who did not graduate.

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**THE CLASS OF '74: EARLY CAREERS
OF GRADUATES
FROM THE SIXTEEN CAMPUSES OF
THE UNIVERSITY OF
NORTH CAROLINA**

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

The University of North Carolina
General Administration
Chapel Hill, North Carolina
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PREFACE

This is a study of the post-graduation activities of 1974 graduates of the sixteen constituent institutions of The University of North Carolina. The study reports on what members of the 1974 graduating classes were doing one and a half years after completing their courses of study, and on how they evaluate their collegiate experiences. It provides information about the employment situation of a large, random sample of these graduates, about their job satisfaction and the general issue of "underemployment," and about how the graduates assess the effectiveness of the curriculum and of various services at their alma mater.

This report is a timely one, in view of all that is being written about the "excess supply" of college graduates and the questions raised about the social value of higher education. In fact, few "follow-up" studies of this kind have been attempted, and there is a lack of comprehensive information about the outcomes of higher education. It is anticipated, therefore, that additional studies of the 1974 classes and of other groups will be made in the future to provide a more informed basis for assessing the effectiveness and the values of the college experience.

The study was directed by Mr. Arthur H. Padilla.

Raymond H. Dawson
Vice President for Academic Affairs

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Unfortunately, none of the above can be blamed for any remaining errors in this report.

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INTRODUCTION

Institutions of higher education in the main have little specific information about their graduates once they have left their campuses. Certainly it is difficult for any institution to know much about how a college education has affected the lives of its graduates. The effects and influences of the college experience are complex, varied, and often subtle, so that any precise measurement is difficult to define -- much less determine. As the Newman report¹ has pointed out, while graduate education is explicitly career-oriented, "much of undergraduate education -- as exemplified in the study of liberal arts -- is intended for general knowledge and preparation for life."

This is as it should be. Nevertheless, the need to meet responsibilities to students of the constituent campuses of The University of North Carolina as effectively as possible suggests the necessity for knowledge about how the lives and careers of graduates are affected by their experiences in college.

One means of obtaining some insight into and understanding of the process is to ascertain what happens to The University's students after they graduate. This study is designed to that end. Specifically, the primarily descriptive study reported herein has sought to find out what the graduating classes of Spring 1974 of the 16 campuses of The University of North Carolina are doing. A scientifically chosen random sample of nearly 3,000 graduates was selected and sent a survey instrument (see Appendix) early in the Fall of 1975, about one year and a half after these

¹Report on Higher Education: The Federal Role. Graduate Education,
(Washington: U.S. Government Printing Office, 1973).

graduates of all degree levels had left their respective campuses. The responses obtained from these 1974 graduates are analyzed and discussed in detail in what follows, and constitute the basis of continuing, longitudinal studies on a University-wide level.

Plan of the Report

The plan of the study is as follows: Chapter I contains a description of the sampling procedure, a discussion of mail surveys in general and comparisons between respondents and non-respondents. Although Chapter I is a necessary part of the report, the reader who is not particularly interested in the vagaries of sampling may start reading the report with Chapter II without losing the substance of the findings. Chapter II contains a description and analysis of general characteristics of the graduates. Chapter III discusses and reviews in detail the characteristics of the gainfully employed graduates, such as their incomes, places of employment, satisfaction with their jobs and other factors. Chapter IV describes the graduates who were furthering their education in a formal sense as well as those who were neither working nor in school. Chapter V has the summary, policy implications and agenda for future research. The Appendix contains various statistical tables and formulae used in the computation of variances of estimates.

CHAPTER I

SAMPLE SIZE, RESPONDENTS AND NON-RESPONDENTS

Sample Size and Response Rates

The sample of Spring 1974 graduates of the 16 constituent institutions of The University was drawn randomly from a population of about 9,000.

The sampling rate was one out of four with the following exceptions:

(1) All minority presence students (i.e., whites at traditionally black campuses and blacks at predominantly white campuses) in the population were chosen and,

(2) All doctoral and first professional graduates were chosen. As a result of these exceptions the overall sampling rate approximated 31 percent.

Two mailings were sent to the 2,755 individuals chosen for the sample in early Fall 1975, the second mailing coming about six weeks after the first. Over 1,200 usable responses, or about 45% of the 2,755 questionnaires mailed, were received to the first mailing and an additional 500 responses were received to the second mailing. Thus, the total rate of response was about 62% (1,697 out of 2,755).

Table 1 shows the combined (first and second mailings) responses to the survey, by degree level, for each of The University campuses. In the aggregate, the proportions responding varied from 72.0% for UNC-Greensboro to 39.5% for NCCU. Six campuses were above the overall response rate of 61.6%; all were traditionally white institutions. One pattern that emerges clearly from this table is that graduates from the smaller campuses and from the traditionally black institutions do not respond at the same rate as

Table 1. Number in Sample and Number of Respondents by Degree Level by Institution

	BACHELOR'S		MASTER'S		DOCTOR'S		FIRST PROF.		TOTAL		
	Sample	Resp	Sample	Resp	Sample	Resp	Sample	Resp	Sample	Resp	Response
ASU	222	137	46	28	0	0	0	0	268	165	61.6%
ECU	196	117	25	9	0	0	0	0	221	126	57.0
SCSU	46	21	0	0	0	0	0	0	46	21	45.7
FSU	70	29	0	0	0	0	0	0	70	29	41.4
NCA&T	79	41	12	9	0	0	0	0	91	50	54.9
NCCU	107	46	31	13	0	0	14	1	152	60	39.5
NCSA	34	15	0	0	0	0	0	0	34	15	44.1
NCSU	266	179	14	7	55	41	0	0	335	227	67.8
PSU	79	32	0	0	0	0	0	0	79	32	40.5
UNC-A	30	12	0	0	0	0	0	0	30	12	40.0
UNC-CH	342	257	114	69	75	54	224	150	755	530	70.2
UNC-C	147	80	45	29	0	0	0	0	192	109	56.8
UNC-G	176	129	23	15	26	18	0	0	225	162	72.0
UNC-W	50	32	0	0	0	0	0	0	50	32	64.0
WCU	120	83	18	11	0	0	0	0	138	94	68.1
WSSU	69	33	0	0	0	0	0	0	69	33	47.8
Total Number	2,033	1,243	328	190	156	113	238	151	2,755	1,697	
Response Rates	61.1%		57.9%		72.4%		63.4%		61.6%		

graduates from other campuses. For instance, the response rate for graduates (all degree levels) from the historically black institutions was 45.1% compared to 64.6% for the graduates from the historically white campuses. The doctoral and first professional graduates, in addition, tended to respond at a higher rate than other graduates (72.4% for doctorates and 63.4% for first professionals).

White graduates from the five traditionally black campuses responded at a rate of 50.7%, compared to 60.2% for blacks at historically white institutions. Thus, a black student at a white campus was more likely to respond than one at a traditionally black institution and, conversely, a white student at a black institution was less likely to answer than a white student at a historically white campus. This is shown in Table 2 (Panel B).

Some Comments About Mail Surveys

Among the comparative advantages of mail questionnaires is the fact that the mail questionnaire is generally less expensive than other surveying approaches. As Selltitz (et.al.) puts it: "Questionnaires can be sent through the mail; interviewers cannot."¹ Moreover, persons may answer certain questions -- perhaps those of a sensitive nature like income or satisfaction with a job -- more willingly and accurately when not confronting an interviewer. Some evidence exists to show that

¹ Selltitz, C., M. Jahoda, M. Deutsch, and S. Cook, Research in Methods in Social Relations, (New York: Holt, Rinehart and Winston, 1959), p. 28.

Table 2. Panel A. Number in Sample and Number of Respondents by Ethnic Background and by Institution

	<u>BLACK</u>			<u>WHITE</u>			<u>OTHER</u>			<u>TOTAL</u>		
	Sample	Resp.	%	Sample	Resp.	%	Sample	Resp.	%	Sample	Resp.	%
ASU	7	3	42.9%	257	162	63.0%	4	0	0%	268	165	61.6%
ECU	18	10	55.6	201	116	57.7	2	0	0	221	126	57.0
ECSU	38	16	42.1	8	5	62.5	0	0	-	46	21	45.7
FSU	46	17	37.0	24	12	50.0	0	0	-	70	29	41.4
NCA&T	85	45	52.9	6	5	83.3	0	0	-	91	50	54.9
NCCU	129	52	40.3	20	7	35.0	3	1	33.3	152	60	39.5
NCSA	2	1	50.0	31	13	41.9	1	1	100.0	34	15	44.1
NCSU	17	13	76.5	309	208	67.3	9	6	66.7	335	227	67.8
PSU	15	6	40.0	48	19	39.6	16	7	43.8	79	32	40.5
UNC-A	4	1	25.0	26	11	42.3	0	0	-	30	12	40.0
UNC-CH	59	44	74.6	690	480	69.6	6	6	100.0	755	530	70.2
UNC-C	35	15	42.9	155	94	60.6	2	0	0	192	109	56.8
UNC-G	20	13	65.0	202	149	73.8	3	0	0	225	162	72.0
UNC-W	7	5	71.4	43	27	62.8	0	0	-	50	32	64.0
WCU	12	7	58.3	124	85	68.5	2	2	100.0	138	94	68.1
WSSU	60	28	46.7	9	5	55.6	0	0	-	69	33	47.8
TOTAL	554	276	49.8%	2,153	1,398	64.9%	48	23	47.9%	2,755	1,697	61.6%

Panel B:

Response Rates of Minority Students

Blacks at Predominantly
White Campuses:

Whites at Predominantly
Black Campuses:

<u>Sample</u>	<u>Resp.</u>	<u>%</u>	<u>Sample</u>	<u>Resp.</u>	<u>%</u>
196	118	60.2	67	34	50.7

respondents make critical comments and report the less socially acceptable options more readily on a mail questionnaire which assures confidentiality than on an interview.² (This statement is based on a study which investigated the validity of survey responses; i.e., it compared the results given in the survey with known facts.)

There are disadvantages to mail surveys. The questions need, for instance, to be sufficiently simple and straightforward to be fully understood with the help of printed instructions. Since the population of this survey consisted of college graduates, this problem presumably is not as important as it could be with other populations. Another problem is that answers must be regarded as final. There is no opportunity to probe beyond the given response.

The main difficulty with mail surveys, however, is that of non-response. It is not of course the loss in sample numbers that is serious, but the likelihood that the non-respondents differ materially from respondents so that estimates based on the latter are biased in unknown ways. But while researchers may hope for high rates of response, there is no particular level of response below which a survey is rendered useless or ineffective. A survey with a 50% rate of response may result in estimates more representative of the population being studied than one with an 80% return. The question of how damaging non-response may be to a particular survey thus reduces to how large the differences between respondents and non-respondents are, and to this issue the paper will now turn.

²U.S. National Center for Health Statistics, Comparison of Hospitalization Reporting in Three Survey Procedures, U.S. Dept. of H.E.W., Vital and Health Statistics, Series 2, No.8, (Washington: U.S. Govt. Printing Office, 1965).

Some Comparisons of Respondents and Non-Respondents¹

On aggregate, the original sample and the respondent group are similar in a number of characteristics. For instance, the original (unweighted) sample contained 55.5% males and 44.5% females, identical proportions to the respondent group. (See Table 3). The percentage distribution of the original sample group also closely resembled that of the respondents in terms of degree level. About three-fourths of the graduates in each group were bachelor's graduates, about 12 percent master's, 6 percent doctoral and 9 percent first professionals. The respondents, however, contained a slightly smaller proportion of blacks than the original sample. This is of course due to the previously noted differentials in response between blacks and whites. Nonetheless, Table 3 shows a close correspondence between the respondents and the non-respondents and this lends strength to any estimates based on the statistics from those who responded.

Moreover, comparisons between the respondents who answered the first mailing of the questionnaire and those who replied to the second mailing revealed little differences. As noted earlier, some 1,200 graduates responded to the first mailing and an additional 500 responded to the second mailing. Table 4 shows the distributions of these two groups according to their degree level, marital status, ethnic background and activity at the time of the survey. This table also reveals slight, statistically non-significant differences between those who responded to the first mailing and those responding to the second mailing.

¹The comparisons made in this section are based on unweighted figures. Later sections will report the appropriately weighted numbers, thereby enabling inferences to the original population of 9,000.

Table 3. Comparative Percentage Distributions for Original Sample and for Respondents by Degree Level, Ethnic Background and Sex

A. <u>Degree Level</u>	<u>Sample</u>	<u>Respondents</u>
Bachelor's	73.8%	73.2%
Master's	11.9	11.3
Doctor's	5.7	6.7
First Prof.	<u>8.6</u>	<u>8.9</u>
	100.0	100.0
B. <u>Ethnic Group</u>	<u>Sample</u>	<u>Respondents</u>
White	78.2%	82.3%
Black	20.1	16.3
Other	<u>1.7</u>	<u>1.4</u>
	100.0	100.0
C. <u>Sex</u>	<u>Sample</u>	<u>Respondents</u>
Male	55.5%	55.5%
Female	<u>44.5</u>	<u>44.5</u>
	100.0	100.0

Note: Percentages are based on unweighted numbers

Table 4. Comparison Between First and Second Mailing Respondents by Current Activity, Sex/Marital Status, Ethnic Background and Degree Level

A. Current Activity	Ethnic Background*			
	Black		White	
	1st	2nd	1st	2nd
Gainfully Employed	76.2%	81.1%	79.0%	82.2%
Continuing Education	14.4	14.7	14.2	10.9
Other Activity	9.4	4.2	6.8	6.8
	100.0	100.0	100.0	100.0

B. Sex/Marital Status	Degree Level							
	Bachelor's		Master's		Doctor's		First Prof.	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Male-Single	26.9%	29.0%	13.8%	13.3%	8.0%	8.0	25.0%	25.6
Female-Single	29.0	22.3	20.7	22.2	6.8	12.0	5.4	7.7
Male-Married	20.9	27.3	35.2	33.4	67.0	64.0	67.0	66.7
Female-Married	23.2	21.4	30.3	31.1	18.2	16.0	2.7	-
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

C. Degree Level	Ethnic Background*			
	Black		White	
	1st	2nd	1st	2nd
Bachelor's	79.6%	84.2%	70.9%	74.8%
Master's	16.0	14.7	10.8	8.5
Doctor's	2.8	-	7.7	6.3
First Prof.	1.6	1.1	10.6	10.4
	100.0	100.0	100.0	100.0

* Ethnic category "Other" is not reported due to the small sample size

Concerning the current activity of respondents, about 76% of the blacks and 79% of the whites responding to the first mailing indicated that they were gainfully employed in the labor market. For the second mailing group, the proportions for both blacks and whites were essentially the same. This was somewhat unexpected since it is plausible to assume that the earliest respondents (i.e., those who respond after only one mailing) have more favorable events to report than those who need some prodding to answer.

Thus, this finding of essentially similar employment patterns between first and second mailing respondents is encouraging regarding possible bias due to non-response.¹ The remaining panels in Table 4 show marked similarities between first and second mailing respondents with reference to sex/marital status, degree level and ethnic background.

The similarities between respondents and non-respondents should not obscure the fact that for some institutions, most notably FSU, NCCU, NCSA, PSU, and UNC-A, the response rate was disappointing and inferences about the populations from these institutions based on their samples will necessarily be tentative. On the other hand, the response rates for the larger institutions were relatively high and differences between respondents and non-respondents were small. Inferences to the populations from this latter group of campuses will therefore be more certain and precise. Given these final comments on some technical aspects of the survey, the paper will now turn to an analysis of the responses.

¹ It should be noted that the time elapsed between the first and the second mailing (about six weeks) was not great enough such that fundamental changes in the economic environment could have taken place. Thus, any differences in employment of respondents imply differences in the employability of the graduates from the two groups.

CHAPTER II

GENERAL CHARACTERISTICS OF GRADUATES

Introduction

All graduates in the survey were asked, as can be seen from the questionnaire (see Appendix), to complete Section A of the survey instrument, and then depending on what their current activity was at that time, to complete either Section B (if gainfully employed), Section C (if continuing formal education) or Section D (if neither B nor C was applicable). This chapter will discuss the responses in Section A of the questionnaire, which are primarily biographical in content.¹

General Characteristics

Of the 9,000 graduates in the population, about 81% (or 7,250) were white, with 18% being black and the remaining 1% classified in some other ethnic category. Most of the graduates received the baccalaureate degree (83.9%), while 11.7% received the master's, 1.8% the doctorate and 2.8% the first professional degree.

While women comprised over half of the degree recipients at the bachelor's and master's level, they constituted under 15% of the doctoral and first professional graduates.

As would be expected, black graduates are much more likely to come from "first generation" college families than white degree recipients

¹Estimates reported in this and subsequent chapters are based on weighted figures, used to infer from the respondents to the total population. In general, no figures with extremely large errors will be reported (i.e., statistics based on few observations will not be reported) unless otherwise noted. Statements of comparison in the text, moreover, are significant at least at the 10 percent level (chances are about 90 out of 100 that any difference would be less than 1.6 times the standard error.) For a detailed description of techniques used for computing variances and standard errors, see W.G. Cochran, Sampling Techniques, 2nd edition, (New York: J. Wiley and Sons, Inc., 1963), especially Chapter 5, pp.93 ff., and the appendix in this report.

(see Table 5). Thus, less than one in ten black bachelor's graduates (8.1%) had fathers with more than four years of college, compared to over one of every four (27.2%) white bachelor's graduates. Nearly half of the fathers of first professional graduates had a college degree and most of them had more than four years of college.

Table 5. Percentage of Graduates' Fathers with at Least Four Years of College, by Ethnic Background and Degree Level

	Bachelor's	Master's	Doctorate	First Prof.
Black	8.1%	11.7%	- *	- *
White	27.2	26.2	31.4%	46.3%

*Numbers relatively small in this category and have therefore large errors

The educational distributions of parents of graduates are reflected in the earnings patterns of graduates' families. Table 6 shows the overall income distribution for the families of the graduates (1974 total family income) by ethnic background. Almost one-third of families of white graduates earned more than \$15,000 annually in 1974, compared to 6.7% for black families. On the other end of the scale over three-fourths of the black families and one-fourth of the white ones earned less than \$10,000. The estimated means or averages were \$17,460 for white families and \$8,620 for black families, a difference of about 100%.

By institutional category¹ these differences between families of graduates are also quite evident. For example, Table 7 shows that while over one-third of fathers of bachelor's graduates from the three Ph.D.-granting UNC campuses had at least a college degree, under 5% of fathers

¹Table 7 lists the institutions included in each of the five institutional categories.

Table 6. Parental Income (Percentage Distribution) for 1974 Graduates by Ethnic Background

Income Interval	Black	White
Less than \$6,000	38.2%	8.7%
\$6-10,000	37.3	16.1
\$10-15,000	10.3	25.8
\$15-20,000	7.4	17.1
\$20-25,000	3.5	12.9
More than \$25,000	3.2	19.4
	100.0	100.0
N =	1493	6753

Estimated Mean* = \$8,620 \$17,460

*Estimated by assuming that families reporting earning above \$25,000 averaged \$35,000 per year

Table 7. Fathers' Education for Bachelor's Graduates, by Institutional Category

Fathers' Education	Ph.D.- Granting ¹	Master's-Granting ²		Bach's-Grant ³		All
		Pred.Black	Pred.White	P.B.	P.W.	
Some H.S. or Less	18.5%	61.9%	27.8%	73.4%	29.3%	30.8%
High School Graduate	25.5	26.5	36.8	13.9	33.2	29.2
Some College	19.6	2.2	17.0	8.3	22.1	16.4
College Graduate	20.0	8.0	11.2	1.5	5.1	13.3
More than 4 years of College	16.4	1.4	7.3	2.9	9.8	10.3
N =	3034	683	2556	575	569	7417

¹Includes NCSU, UNC-CH, UNC-G

²Includes NCA&T and NCCU (predominantly black) and ASU, ECU, UNC-C and WCU (predominantly white)

³Includes ECSU, FSU, WSSU (predominantly black) and NCSA, PSU, UNC-A, UNC-W (predominantly white).

of graduates from the predominantly black bachelor's-granting campuses had achieved that educational level. Similarly, the estimated mean income of families of graduates at the Ph.D. campuses was considerably greater than that for families of graduates from other UNC institutions (see Table 8).

Table 8. Parental Total Family Income for 1974 for Bachelor's Graduates by Institutional Type

Income Interval	Institutional Category					
	Ph.D.-Granting	Master's Grant.		Bachelor's Grant.		All
		PB	PW	PB	PW	
Less than \$6,000	5.9%	31.6%	8.3%	52.4%	12.8%	13.3%
\$6-10,000	12.7	43.7	18.3	30.1	23.0	19.7
\$10-15,000	25.6	7.5	26.9	5.8	31.7	23.2
\$15-20,000	16.6	9.0	19.8	9.4	12.2	16.1
\$20-25,000	14.2	3.9	13.3	1.9	12.2	11.8
More than \$25,000	25.1	4.2	13.3	0.4	8.1	15.9
N =	2899	681	2433	551	505	7069
Mean Income	\$19,280	\$9,300	\$16,190	\$6,920	\$13,901	\$15,910

It should be noted that parents of college students are typically between 40 and 55 years of age, which corresponds to the peak earning years of most families. For example, the 1974 national median family income for all white families (with and without children in college) was \$13,271, whereas the family income for white families where the head of the household is between 45-54 years was \$17,059.¹ For black

¹Statistical Abstract of the United States, 1975, (Washington, D.C.: U.S. Government Printing Office, 1975), Table 647, p.397. It should be noted that mean income, the measure used above for families of graduates of UNC campuses, is generally higher than median income, which is the measure used for national families.

families, the median family income was \$7,807 for all families and \$10,068 for families headed by a person 45-54 years. It would seem therefore that the parents of graduates from the predominantly white institutions (who in the main are white) have incomes either comparable to or slightly lower than the incomes of similar white families nationally. Parents of graduates of the traditionally black institutions (who in the main are black) have incomes significantly lower than those of comparable black families nationally.

Residency and High School Location

Almost nine in ten graduates (88.8%) were classified as North Carolina residents for tuition purposes. This proportion varied from 70.8% for doctoral graduates to 91.1% for recipients of first professional degrees. Residency classification for tuition purposes was not perfectly related to location of high school from where respondents were graduated. For example, 71.2% of the master's graduates classified as North Carolina residents graduated from a North Carolina high school, and at the doctoral level this percentage was 39.5%. (For the bachelor's and first professional levels, the proportions were 94.7% and 80.8%, respectively.) Among those classified as non-residents for tuition purposes, on the other hand, there were some 22% who were graduated from North Carolina high schools. Apparently this group included many students who were raised in the State, left after high school, and returned for college work at some level.

Scholastic Aptitude Test (SAT) Scores

Considering the baccalaureate degree recipients only, nearly half (44.1%) of the graduates reported having scored over 1,000 on the

(combined) Scholastic Aptitude Test (SAT). This proportion, as might be expected, is substantially higher than that for the entering freshman class in Fall 1970 (most May 1974 bachelor's graduates were freshmen in Fall 1970). Thus, the students graduating seemed to score significantly higher on standardized tests than those who did not complete their degrees.

Institutional variation in SAT scores is extreme. While three-fourths of the bachelor's graduates from the Ph.D.-granting campuses reported scoring above 1,000 on the SAT, less than 6 percent at all the predominantly black campuses so reported. About one-third of the graduates from predominantly white bachelor's- and master's-granting campuses scored over 1,000 (see Table 9).

Table 9. Combined (Verbal and Math) SAT Scores for Bachelor's Graduates by Institutional Category

SAT Score	Ph.D.- Granting	Master's-Granting		Bachelor's-Granting		All
		P.B.	P.W.	P.B.	P.W.	
400-600	0.4%	8.4%	0.5%	8.6%	0.9%	1.8%
600-800	2.8	55.7	12.1	58.8	14.6	16.0
800-1000	24.3	33.3	50.1	16.0	45.3	34.9
1000-1200	46.6	2.0	26.6	3.5	26.0	30.7
1200-1400	21.9	-	6.7	2.4	5.8	11.9
1400-1600	3.1	0.3	-	-	2.1	1.5
Did not take	0.8	0.3	4.0	10.7	5.3	3.0
N =	2964	640	2501	576	540	7221

Satisfaction with Major and Institution

Graduates were asked to indicate their overall level of satisfaction with their institution and also with their major area of study. Nearly all of the bachelor's (96.4%), the master's (96.3%), the doctor's (97.3%) and the first professional graduates (98.8%) indicated that they were either highly or moderately satisfied with their institution. Only at the predominantly black, bachelor's-granting campuses was this proportion under 90 percent (88.2%). Black graduates in general (at the bachelor's level) seemed more dissatisfied (8.4%) than white graduates (2.6%) with their institutions, although numerically speaking this difference is not large. Over nine of every ten graduates reported being well satisfied with their chosen major area of study and few differences were apparent between institutions or ethnic backgrounds. Of particular interest was the finding that there was no significant difference between liberal arts graduates and non-liberal arts graduates at the bachelor's level regarding satisfaction with their majors. This pattern seems to contradict the "conventional wisdom" on the satisfaction of liberal arts graduates with their degrees.¹

Primary Current Activity

Nearly 80% of the graduates of Spring 1974 were gainfully employed in the labor market. An additional 14% of the graduates were continuing their formal schooling and about 7.5% were involved in other activities (e.g., employment in the home, unemployed).

These proportions varied significantly, as shown by Table 10, between

¹For an example of the "conventional wisdom" on the distress of liberal arts majors, see "Who Needs College?", Newsweek, April 26, 1976, p. 60.

the sexes and degree levels. Males at the bachelor's level were almost twice as likely to be continuing their schooling as females, and at the master's level nearly four times as likely. Women at all degree levels were more likely to report under the "Other" category than men. Most of these females, as will be seen in Chapter IV, were not seeking employment actively.

Table 10. Primary Current Activity of Spring 1974 Graduates (Fall 1975) by Sex and Highest Earned Degree

Degree Levels		Current Activity			N
		Gainfully Employed	Continuing Education	Other	
Bachelor's	Male	75.2%	21.1%	3.7%	3726
	Female	76.8	11.1	12.1	3776
Master's	Male	84.1	11.9	4.0	483
	Female	89.7	3.1	7.3	562
Doctor's	Male	95.0	1.2	3.7	115
	Female*	79.6	3.4	17.0	41
First Prof.	Male	95.3	4.0	0.7	220
	Female*	75.0	8.3	16.7	18

*Based on small numbers and have therefore relatively large standard errors

White graduates of the predominantly black institutions were significantly less likely to be continuing their education than were other white students. In addition, these minority students were twice as likely to report neither gainful employment nor continuation of schooling as were other whites. Black graduates of predominantly white campuses, on the other hand, reported activity patterns quite similar to those of other black graduates.

By institutional category, the bachelor's graduates of both the Ph.D.-granting and the predominantly black, master's-granting institutions were more likely than other graduates to be continuing their formal education (20% vs. 11.5%). Women (bachelor's) graduates were more likely than men to be gainfully employed 16 months or so after graduation. This is due to the fact that a larger proportion of the males were in some type of post-baccalaureate program (21.1% for men and 11.1% for women). Women were also more likely to be neither employed nor in school, as 12.1% of the females and 3.7% of males reported under the "Other" activity category. Both male and female bachelor's graduates from the predominantly black, master's-granting campuses were more likely than other male and female graduates to be continuing their formal schooling.

Conclusions

Thus, this chapter is concluded by noting the following salient points about graduates of institutions of The University:

(1) Black graduates, who comprised nearly one-fifth of the total population, were more likely to come from "first generation" college families than white graduates. Both parental educational attainment levels and family income of black graduates were significantly below the norm of white graduates.

(2) Graduates of the Ph.D.-granting UNC institutions came from better educated, more affluent families than graduates of other UNC institutions. The total family incomes of parents of graduates of The University system, however, were generally lower than incomes of

comparable families nationally.

(3) Nearly nine in ten graduates were classified as North Carolina residents for tuition purposes, although not all these were graduated from North Carolina high schools. Conversely, nearly one-fifth of those classified as non-residents were graduated from a North Carolina high school.

(4) Students completing their baccalaureate degrees as a group scored much higher on standardized tests (like the SAT) than students who did not. Institutional variation in average SAT scores is extreme, as noted by the fact that three-fourths of graduates of the Ph.D.-level campuses scored above 1,000 on the SAT, compared to about 38% for graduates of the master's- and bachelor's-granting predominantly white campuses and 6% for graduates of the predominantly black institutions.

(5) Contrary to the conventional "wisdom" and many press reports, no significant differences were found between liberal arts and non-liberal arts graduates regarding satisfaction with their chosen major area of study.

(6) Nearly eight in ten Spring 1974 graduates were gainfully employed about one year and a half after graduation. An additional 14% of the graduates were continuing their formal schooling and the remainder were involved in some other activity (e.g., employment in the home, unemployment).

CHAPTER III

GAINFULLY EMPLOYED GRADUATES

Introduction

It is estimated, as noted in the foregoing, that of the original population of over 9,000 May 1974 graduates of The University, some 78.1% were gainfully employed in the labor market, 14.4% were continuing their education on a full-time basis and the remainder (7.5%) were engaged in some other activity (Table 11). This section will analyze

Table 11. Primary Activity of May 1974 Graduates During Fall 1975 by Ethnic Background

Activity	Black	White	Total*
Gainfully Employed	78.0%	78.1%	78.1%
Formal Education	13.0	14.7	14.4
Other	9.0	7.2	7.5
	100%	100%	100%

*Includes blacks, whites and others

primarily the responses from those who were gainfully employed, while subsequent chapters will deal with the characteristics of the other respondents.

Location of Job During Early Career

Nearly three-fourths (72.6%) of the group indicating that their current primary activity was gainful employment were employed in North Carolina (Table 12). Thus, fewer than one-third of the employed graduates

Table 12. Location of Job for May 1974 Graduates Gainfully Employed During Fall 1975, by Type of Institution

Type of Institution	Job Location	
	N.C.	Out of N.C.
Ph.D.-Granting	70.0%	30.0%
Pred. Black	56.9	43.1
Master's-Granting Pred. White	78.5	21.5
Pred. Black	70.3	29.7
Bachelor's-Granting Pred. White	84.6	15.4
Total	72.6%	27.4%

left North Carolina during their early careers. Graduates from the three Ph.D.-granting campuses were less likely to stay in the State than graduates from the other campuses, although the difference was small (70% for the former compared to 75% for the latter). It should be emphasized of course that the labor market for graduates of the Ph.D.-granting institutions is more national in scope than that of other graduates, and this would account for part of the difference in migration.

North Carolina residents were about two and one-half times as likely as non-residents to remain in the State during their early careers. About 78.4% of the graduates classified as North Carolina residents for tuition purposes remained in the State, compared to 31.1% for out-of-state residents (see Table 13). By degree level, it can be seen that the most mobile graduates are the doctoral recipients, as 53.8% of N.C. residents earning the doctorate and 13.9% of the non-residents remained in North Carolina.

Table 13. Job Location (Fall 1975) of May 1974 Graduates by Residency Status and Degree Level

Job Location	Degree Level									
	Bachelor's		Master's		Doctor's		First Prof.		All	
	Res.	NR	Res.	NR	Res.	NR	Res.	NR*	Res.	NR
NC	78.6%	36.9%	82.3%	17.7%	53.8%	13.9%	70.9%	7.7%	78.4%	31.1%
Out of N.C.	21.4	63.1	17.7	82.3	46.2	86.1	29.1	92.3	21.6	68.9
N =	5116	598	729	175	99	41	202	19	6146	833

*Based on few observations; standard errors are therefore relatively large

Note: Res = N.C. Resident and NR = Non-resident

These statistics, however, reflect the situation one year or so after completion of studies, a period during which college graduates are highly mobile. The assertion that recent graduates tend to move considerably, geographically and occupationally, is given support by the fact that over one-third (34.9%) of the 1974 graduates had held more than one job between graduation and the time of the survey. Thus, it is possible (and likely) that many of those leaving the State during their early careers may return at some future date.

A comparison between graduates from the traditionally black and white institutions reveals that North Carolinians from the former institutions tend to leave the State at a higher rate than (N.C. resident) graduates from the white campuses (33% for N.C. residents from black institutions and 19% for graduates from white schools). There is no significant difference for out-of-state residents between the two types of institutions, although non-residents from black campuses tend to remain in North Carolina to a slightly higher degree.

"Underemployment" and Working Satisfaction

Much of the recent literature about college graduates and jobs asserts that "underemployment" and dissatisfaction with jobs appear to be rampant among recent college graduates.¹ This proposition is not supported by the results from this survey. Over four out of every five of the bachelor's graduates noted that either they were employed in their major field of study, or that they never planned to work in that area. Only 17.5% said they were not working in the area of their college studies because they could not find a job in that area. This is shown by institutional type in Table 14.

Table 14. Proportion of Gainfully Employed Graduates Indicating that They Were Employed Outside Their Major Field of Study Due to Not Being Able to Find Appropriate Job, by Institutional Category and Degree Level

Degree Level	Ph.D.-Granting	Master's-Granting		Bachelor's-Granting		All
		Pred.B	Pred.W	Pred.Black	Pred.White	
Bachelor's	13.2%	24.1%	18.0%	26.8%	19.0%	17.5%
Master's	5.4	20.4	7.5	-	-	8.4
Doctor's	8.4	-	-	-	-	8.4
First Prof.	0	-*	-	-	-	0

*Low response from first professional students in this institutional category rendered the statistics meaningless

¹See, for example, Richard Freeman and J. H. Hollomon, "The Declining Value of College Going," Change, September 1975, pp.24 ff., and references cited therein.

Three distinct patterns emerge from this table. First, graduates of the Ph.D.-granting campuses were significantly less likely than were other graduates to report employment outside their major field of study due to failure to find an appropriate job. Second, graduates of predominantly black institutions were more likely to report employment outside their field than were graduates of comparable white campuses. Third, there were fewer instances of employment outside fields of study among master's, doctoral and first professional graduates than among recipients of the baccalaureate degree.

In addition, fewer than one in every ten graduates noted that they were seeking alternative employment opportunities because they were dissatisfied with their present jobs. There were few differences in this proportion by ethnic background or by degree level, except for first professional graduates, almost all of whom expressed considerable satisfaction with their jobs.

In general, white graduates were significantly less likely to report that their current jobs were not related at all to their long-range plans than were black graduates (see Table 15). There seems to be little difference, however, between blacks at the traditionally black campuses and those at white institutions, and the same seems to hold for white graduates.

In any event, these data on job satisfaction suggest at least two important conclusions:

- (1) The great majority of the graduates (all degree levels) appear to be satisfied with their current jobs and

(2) Self-reported "underemployment" or employment outside the area of college studies does not appear to be as pervasive as might have been expected from perusal of national press accounts and reports.

Table 15. Relationship Between Current Job and Anticipated, Permanent Career of Spring 1974 Graduate (Percent Distribution)

	All Grads.	Blacks at Pred. White Campuses	Whites at Pred. Black Campuses	All Black Graduates	All White Graduates
Very Related	68.1%	57.5%	72.8%	57.8%	70.7%
Somewhat Related	20.4	27.7%	15.9	24.7	19.0
Not Related at All	11.5 100.0	15.0% 100.0	11.4 100.0	17.5 100.0	10.3 100.0
N =	6,973	149	49	1,256	5,641

Income of Employed Graduates

As an introduction to this section on incomes of graduates, it should be noted that a large portion of the graduates indicating that they were gainfully employed were full-time, year-round workers. Only 7.1% of the bachelor's, 4.8% of the master's, 4.0% of the doctor's and 0.7% of the first professional graduates were employed on a part-time or temporary basis. Thus, part-time workers account for a small fraction of the totals and their inclusion generally will not affect overall averages to any notable degree.

Most of the graduates at the bachelor's level were earning in Fall 1975 between \$8,000 and \$11,000. Graduates of the three Ph.D.-granting campuses of The University seemed to have an advantage over other graduates at the upper end of the income scale. That is, while 22% of the bachelor's graduates of the Ph.D.-granting institutions were earning over \$12,000 per year, only about 5-10% of their counterparts

at the other campuses were so remunerated. This disparity can be partially explained by the distribution of majors across the different campuses. The engineering graduates from NCSU, for example, raised the average for the Ph.D.-granting institutions as a group, whereas the preponderance of education majors at the non-Ph.D. institutions tended to lower averages for that group. In addition, employers may consider a degree from particular institutions as being more or less valuable than other degrees based on their past experiences, and this would account for part of the salary variations. On the other hand, the Ph.D.-granting group includes UNC-G, with a large proportion of females and this tends to bring the average down for this group (see Table 16).

It is estimated that the mean salaries ranged from slightly over \$8,000 per year for bachelor's graduates of the predominantly white bachelor's-granting campuses to \$16,800 for the doctoral graduates. About 40% of the master's graduates, 90% of the doctoral and two-thirds of the first professional graduates earned over \$12,000 per year (see Tables 17, 18, and 19). The gainfully employed graduates of historically black campuses (master's- and bachelor's-granting) tended to make slightly higher salaries than graduates of comparable white institutions, although the differences were not statistically significant.

It should be emphasized, as noted above, that such broad comparisons between and among different types of institutions obviously reflect the effects of many variables. Thus, the fact that bachelor's graduates from the doctoral-granting institutions on average earned some 20% more than graduates from the bachelor's-granting campuses should not necessarily be

Table 16. Percentage Distribution of Salaries, Fall 1975, for
Bachelor's Graduates by Type of Institution (All Workers)

Salary Interval	Ph.D.- Granting	Master's-Granting		Bachelor's-Granting	
		Predom. Black	Predom. White	Predom. Black	Predom. White
Less than \$6,000	10.2%	12.2%	12.6%	14.5%	14.5%
6,000 - 7,000	6.0	2.0	6.4	7.6	8.4
7,000 - 8,000	9.1	15.1	7.7	11.6	18.7
8,000 - 9,000	22.6	32.6	35.6	41.4	31.5
9,000 - 10,000	14.1	13.1	14.6	12.4	16.6
10,000 - 11,000	9.7	6.9	8.3	4.2	1.0
11,000 - 12,000	6.2	6.3	8.4	3.3	1.6
12,000 - 13,000	5.3	3.1	2.4	4.7	6.5
13,000 - 14,000	4.4	2.0	0.8	-	-
14,000 - 15,000	6.4	1.6	2.3	-	-
15,000 - 20,000	5.3	5.1	1.0	-	1.2
More than \$20,000	0.6	-	-	0.4	-
N =	2195	482	1949	494	398
Less than \$8,000	25.3%	29.3%	26.7%	33.7%	41.6%
More than \$12,000	22.0%	11.8%	6.5%	5.1%	7.7%
Mean Salaries	\$9680	\$8940	\$8600	\$8080	\$8020

Table 17. Percentage Distribution of Salaries, Fall 1975, for
Master's Graduates by Type of Institution (All Workers)

Salary Interval	Ph.D.- Granting	Master's Granting	
		Predom. Black	Predom. White
Less than \$6,000	2.8%	-	1.9%
6,000-7,000	2.8	-	-
7,000-8,000	7.6	-	5.3
8,000-9,000	3.3	-	-
9 - 10,000	12.8	36.9%	18.2
10 - 11,000	18.8	-	25.4
11 - 12,000	8.2	22.3	10.3
12 - 13,000	9.6	9.0	15.6
13 - 14,000	4.4	10.9	6.8
14 - 15,000	5.1	1.1	2.4
15 - 20,000	21.7	19.9	10.6
More than \$20,000	2.8	-	3.5
N =	396	107	359
Less than \$8,000	13.2%	-	7.2%
More than \$12,000	43.6%	40.9%	38.9%
Mean Salaries	\$12,290	\$12,310	\$11,990

Table 18. Percentage Distribution of Salaries, Fall 1975,
for Doctoral Graduates by Type of Institution
(All Workers)

Salary Interval	Ph.D. - Granting
Less than \$6,000	2.0%
6,000-7,000	1.0
7,000-8,000	1.7
8,000-9,000	2.0
9,000-10,000	-
10 - 11,000	2.0
11 - 12,000	4.0
12 - 13,000	8.8
13 - 14,000	10.7
14 - 15,000	11.0
15 - 20,000	35.2
More than \$20,000	21.6
N =	143
Less than \$8,000	4.7%
More than \$12,000	87.3%
Mean Salary	\$16,800

Table 19. Percentage Distribution of Salaries,
Fall 1975, for First Professional Graduates
by Type of Institution* (All Workers)

Salary Interval	Ph.D.- Granting
Less than \$6,000	1.4%
6,000-7,000	-
7,000-8,000	0.7
8,000-9,000	1.4
9,000-10,000	6.5
10 - 11,000	7.2
11 - 12,000	16.8
12 - 13,000	18.5
13 - 14,000	7.2
14 - 15,000	5.8
15 - 20,000	25.9
More than \$20,000	8.6
N =	206
Less than \$8,000	2.1%
More than \$12,000	66.0%
Mean Salary	\$14,330

*Response rate for NCCU's Law School graduates
was too low to warrant presentation of the
statistics for that group

interpreted as an "institutional effect," as this variation in earnings may be the result of ability differences or different degree mixes. Only through more complex analyses (e.g., analysis of variance, regression) can these confounding effects be separated. But while it is beyond the scope of this paper to deal in such analytical detail, it will be useful nonetheless to examine these salary differentials by curriculum, sex and ethnic background. This will provide a further dimension to the foregoing, rather simplistic comparative tabulations.

Salary Patterns by Curriculum

As can be seen from Table 20, nearly one-fourth (24%) of the gainfully employed bachelor's graduates from the 16 campuses were in the discipline area of Education.¹ An additional 30% were in either Business or the Social Sciences, and slightly over 17% were in Engineering or the Health Professions. Hence, nearly three-fourths of the employed bachelor's graduates earned their degrees in one of five (broad) discipline areas.

Disciplines characterized by relatively low starting salaries²

¹For a detailed listing of the majors included in each broad discipline area, see Robert A. Huff and Marjorie O. Chandler, A Taxonomy of Instructional Programs in Higher Education (Washington: U.S. Office of Education and National Center for Educational Statistics, 1970).

²Strictly speaking, these are not starting wages since over one year and a half had elapsed between graduation and the time of this survey.

Table 20. Percentage Distribution of Salaries, Fall 1975, of Bachelor's Graduates for All Constituent Institutions of The University of North Carolina, by Discipline Area

Discipline Area	Salary Interval						N
	Less than \$8,000	8-9,000	9-10,000	10-11,000	11-12,000	More than \$12,000	
Agriculture	23.2%	7.2%	23.2%	34.8%	-	11.6%	102
Architecture	68.8	20.8	-	-	10.4%	-	57
Area Studies*	-	-	50.0	-	-	50.0	12
Bio.Sciences	34.0	35.1	14.9	11.7	-	4.3	154
Business	24.5	16.5	17.1	14.3	14.4	13.2	818
Communication	69.7	12.8	-	-	-	17.5	66
Computer Sc.*	-	20.0	-	-	-	80.0	29
Education	23.4	62.5	9.5	0.6	1.2	2.8	1317
Engineering	-	1.2	6.3	6.2	21.7	64.6	475
Fine Arts	57.9	20.8	15.2	4.7	-	1.4	161
Foreign Lang.	83.3	4.6	12.1	-	-	-	51
Health Prof.	17.3	18.8	33.0	8.4	5.1	17.4	465
Home Ec.	62.8	21.2	7.5	-	4.1	4.4	169
Letters	63.2	16.8	11.2	4.4	2.4	2.0	278
Library Sc.*	22.1	77.9	-	-	-	-	26
Mathematics	8.8	29.5	17.9	18.3	10.3	15.2	194
Physical Sc.	12.0	35.3	12.5	26.4	13.8	-	93
Psychology	32.2	28.8	8.7	17.9	12.4	-	139
Public Affairs	25.8	29.4	29.1	7.8	7.9	-	86
Social Sciences	33.7	30.2	14.5	8.9	1.8	10.9	807
Interdisciplinary*	44.4	-	50.0	5.6	-	-	18
All Disciplines	28.1%	30.4%	14.2%	7.8%	6.4%	13.1%	5517

*Estimated percentages for these discipline areas are based on small numbers and have relatively large standard errors. Caution should therefore be used with these numbers.

included Architecture, Communications, Fine Arts, Foreign Languages, Home Economics, and Letters. (The relatively low salaries in Architecture, however, probably reflect an apprenticeship period.) On the other hand, graduates in Engineering and the Health Professions tended to be rewarded at a higher rate than other graduates (and also perhaps those in Computer Sciences although this group included a relatively low number of graduates). Further detailed salary distribution by type of institution and by discipline area are presented in Appendix Tables 1-5.

The distributions of earnings for master's and first professional graduates are shown in Tables 21 and 22, respectively. Overall, nearly 60% of the master's graduates were earning less than \$12,000 during Fall 1975, though graduates from M.B.A. programs (primarily from UNC-CH) reported annual earnings approximating an average of \$17,500. In fact, nearly three-fourths of the master's graduates in Business were earning more than \$15,000 annually, which helps to explain the considerable student interest in certain M.B.A. programs.

It is also noteworthy that over half of the gainfully employed master's graduates obtained some type of Education degree (437 out of 861). Graduates in Law averaged an estimated \$13,500 annually, similar to the \$13,700 estimated for graduates from the dental and medical first professional programs, e.g., D.D.S., M.D., and similar programs. Earnings for doctorate recipients are not shown by discipline area due to the lack of large numbers. However, as noted in Table 18, their average salary approximated \$16,800 and nearly 80% earned in excess of \$13,000 annually. As was the case with the master's group, a large portion of the gainfully

Table 21. Percentage Distribution of Salaries, Fall 1975, of Master's Graduates for All Institutions of The University of North Carolina, by Selected Discipline Area

Discipline Area	Salary Interval						N
	Less than \$12,000	12-13,000	13-14,000	14-15,000	15-20,000	More than \$20,000	
Business	-	5.9%	8.9%	12.5%	62.1%	10.4%	107
Education	65.4%	8.9	7.4	3.5	13.4	1.5	437
Health Prof.	20.7	41.9	16.8	-	20.7	-	34
Library Sc.	86.5	13.5	-	-	-	-	51
Psychology	100.0	-	-	-	-	-	25
Public Affairs	63.0	19.5	8.8	-	8.7	-	66
Social Sciences	74.8	25.2	-	-	-	-	53
All Disciplines	58.7%	12.0%	6.2%	3.5%	16.8%	2.8%	861

Table 22. Percentage Distribution of Salaries, Fall 1975, of First Professional Graduates for All Institutions* of The University of North Carolina, by Discipline Area

Discipline Area	Salary Interval						N
	Less than \$12,000	12-13,000	13-14,000	14-15,000	15-20,000	More than \$20,000	
Health Prof.	34.2%	22.6%	1.5%	3.1%	26.1%	12.3%	96
Law	29.3	13.0	10.3	7.3	34.2	4.9	123
All Disciplines	31.8%	17.3%	6.7%	5.4%	30.6%	8.1%	219

*Excludes law graduates from NCCU due to low response rate

employed doctoral graduates received some sort of Education degree (42 out of 143 or 29%).

Sexual and Ethnic Differentials in Annual Earnings

In the aggregate, male graduates earned nearly 40% more than female graduates. The overall mean annual earnings for all males were estimated at \$11,200, and at \$8,000 for all females. Table 23 shows the distribution of salaries and estimated means by sex and degree level. The largest percentage disparity for any particular degree level is at the bachelor's level, where males earned about 35% more than females (or \$10,250 compared to \$7,570).¹ Male average salaries are about 34% higher than those of women graduates at the master's level, 28% at the doctoral level and 25% at the first professional level.

Table 23. Salary Distribution by Sex and Degree Level for All Employed Graduates from All Institutions of The University of North Carolina

Salary Interval	Degree Level							
	Bachelor's		Master's		Doctor's		First Prof.	
	Male	Female	Male	Female	Male	Female*	Male	Female*
Less than \$8,000	18.2%	38.3%	6.7%	11.0%	1.2%	13.2%	2.1%	~ 1%
\$8-10,000	34.5	54.1	14.2	23.8	1.5	4.4	6.4	22.2
\$10-12,000	23.2	5.2	15.3	41.7	2.6	17.7	22.5	22.2
More than \$12,000	24.1	2.4	63.8	23.5	93.9	64.7	69.0	55.6
N	2714	2825	380	481	109	32	207	13
Average Salary	\$10,250	\$7,570	\$14,140	\$10,590	\$17,670	\$13,810	\$14,670	\$11,710
Percent Diff.		35.4%		33.5%		28.0%		25.3%

*Based on small sample size; standard errors are therefore relatively large

¹Alert readers may note that the aggregate percentage difference in salaries between males and females is larger than that for any given degree level. This is due to the relatively larger number of males at the doctoral and first professional levels, where salaries are also highest, as seen in Table 23.

To a very limited degree, these differentials in earnings by sex reflect the relatively greater numbers of females in temporary or part-time employment situations. For example, 95.1% of the gainfully employed male bachelor's degree holders were working on a full-time basis, as compared to 90.7% for the women bachelor's degree holders, and considering graduates from all degree levels, the percentages were 95.3 for all males and 91.5 for all females. Women bachelor's also reported working fewer hours per week than men (37.6 hours vs. 41.9 hours for men) and fewer weeks per year (49.2 weeks for men and 46.2 weeks per year for women). While these differences in hours and weeks are due to the large number of women who are teachers, they nonetheless probably account for part of the earnings differential. Excluding workers in part-time or temporary situations results in only a slight decrease in the percentage income advantage that males enjoy over females. Variations, moreover, in the fields of study between males and females also account for part of the income differences. But even comparisons within the same broad discipline areas result in an economic advantage for men. This is depicted in Table 24, which shows estimated average annual earnings for male and female bachelor's graduates for selected disciplines. The greatest income discrepancy between sexes appears to be in the Health Professions, where males have a 76% advantage over females. In Psychology, however, males and females appear to have near parity in their wages. Again, since the estimates in Table 24 are based on full-time, permanent as well as part-time, temporary workers, the salary figures are likely to be somewhat lower than they would be if only full-time workers had been

Table 24. Estimated Average Salaries (Bachelor's Graduates) by Selected Discipline Area and by Sex

Selected Discipline Area	Male (N)	Female (N)	Male + Female
Bio. Sc.	\$ 8,662 (108)	\$ 6,631 (46)	1.306
Business	10,118 (626)	7,706 (193)	1.313
Education	9,686 (260)	7,749 (1058)	1.250
Fine Arts	8,234 (47)	5,711 (114)	1.440
Health Prof.	16,108 (76)	9,158 (383)	1.759
Letters	8,394 (85)	5,790 (143)	1.450
Math.	10,525 (92)	8,923 (102)	1.180
Psych.	8,242 (78)	8,065 (61)	1.022
Public Aff.	9,511 (51)	6,971 (35)	1.364
Soc. Sc.	9,208 (552)	6,790 (255)	1.356

considered. Nonetheless, these figures are within a few percentage points of those derived by considering only full-time workers and also the relative position of females remains unchanged in either case. Thus, the obvious and inescapable conclusion is that recent female college graduates earn substantially less than comparable male college graduates. Further analyses with these data could serve to determine more precisely the extent of the differences with regard to sex.¹

Minority students for purposes of this survey, as noted in Chapter I, consisted of white students attending predominantly black campuses and vice versa. Black graduates from the historically white campuses,

¹There are some aggregation biases with a broad measure such as a discipline area. For example, within the Social Sciences, bachelor's graduates in Economics earn nearly \$10,000 annually or about 10% more than other social scientists like historians or sociologists. Thus, some of the income differences between sexes within a given discipline area could reflect different options within an area available to males and females.

nearly all of whom earned either the baccalaureate or the master's degree, averaged about \$10,560 annually. This is almost 20% higher than the overall average of \$8,880 for all graduates from the traditionally black institutions. Since previous research has demonstrated the significant relationship between ability and earnings, the differential may be explained in part by the fact that black graduates from predominantly white campuses tend to score much higher on standardized tests than degree recipients from the black institutions.¹

Whereas about two-thirds of all graduates of the five predominantly black campuses scored less than 800 on the SAT (combined), for instance, less than one-fourth of the minority graduates of the historically white campuses did so. Additional factors responsible for this sizable difference in earnings may be discovered through more detailed research.

White graduates of the predominantly black campuses also earned substantially more than graduates of the same black institutions in general (about \$10,190 for the former compared to \$8,800 for the latter). White graduates of the black institutions, however, tended to be older than other students at those campuses and this would account for some of the difference. About half of the white graduates from black campuses taking the SAT scored less than 800, although over 40% of the total group reported not having taken the SAT's.

¹ See, for example, John C. Hause, "Ability and Schooling as Determinants of Lifetime Earnings, or If You're So Smart Why Aren't You Rich?", in F.T. Juster, ed., Education, Income, and Human Behavior, (New York: McGraw-Hill Co., 1975), Chapter 5.

Sources of Information About Employment

Most graduates learned about their current jobs either through direct contact with their employers or through friends and relatives (see Table 25). By degree level, two-thirds of the bachelor's graduates used one of these two sources and slightly more than one in ten (13%) used the campus placement office. About one-fourth of the master's and doctoral graduates were already working in their jobs. As expected, the first professional graduates relied on direct contact with employers or established their own practices independently. Graduates beyond the baccalaureate appeared to benefit minimally from campus placement services.

Table 25. Information Source for Current Job, by Degree Level

Source	Degree Level			
	Bachelor's	Master's	Doctor's	1st Prof.
Already Working in Job	8.5%	23.7%	27.2%	2.1%
Placement Office (College)	13.1	9.6	4.0	5.6
Faculty Members	3.7	6.5	16.8	5.1
Friends & Relatives	20.8	10.7	8.0	13.3
Direct Contact with Employer	41.2	37.3	33.7	41.2
Professional Placement Service	4.9	3.2	1.8	1.4
Other	7.9	8.9	8.5	31.3%
	100.0	100.0	100.0	100.0
N =	5,679	898	143	212

The most important source of information about jobs or anticipated careers, in the opinion of bachelor's graduates, was actual employment in the field of work, and next to this source were family and friends

(see Table 26). Between three-fourths and two-thirds felt that guidance counselors and placement officers were "not important at all" in providing job/career information. This was particularly the case for

Table 26. Importance in Providing Information About Jobs or Anticipated Careers, by Source, for Bachelor's Graduates

Source	Quite Imp.	Important	Not Imp. at All
Family & Friends	49.0%	37.1%	13.9%
Guidance Counselors	6.1	22.0	71.9
Placement Officers	12.7	23.3	64.0
College Faculty	27.9	35.8	36.3
Actual Employment in Field of Work	69.3	18.6	12.1

recipients of the more advanced degrees, as nearly 80-85% of this group felt counselors and placement officers were not important in providing them labor market or career information. This pattern with regard to counseling appears to be consistent with national findings,¹ but the problem here is one of interpretation. If one assumes that each and every student of The University "needs" guidance with her/his career plans or with the process of selecting a major, then the fact that over 70% felt guidance counselors were "not important at all" would be indicative of a severe shortcoming in providing these services. Clearly, however, not all students need or welcome such counseling. Many probably

¹See Richard B. Freeman, The Market for College-Trained Manpower, (Cambridge, Mass.: Harvard University Press, 1971).

have relatively firm ideas or plans about their futures. Thus, perhaps the fact that 28% felt guidance counselors were "important" or "very important" points to substantial service on the part of counselors.

On the other hand, many of the comments written by the graduates choosing to express an opinion¹ were either critical of counseling services or reflected significant confusion regarding career plans. Some graduates seemed to obtain degrees in fields which were not attractive to them but yet failed to change areas of study because they felt they did not have adequate information about alternatives. While admittedly speculative in nature, the foregoing nonetheless seems to suggest the need for further investigation on the usefulness and availability of counseling and/or placement services on constituent institutions of The University. Moreover, the results of this survey also imply that faculty members are quite influential and effective sources of information to students. By taking advantage of the faculty's apparent position of influence, perhaps through seminars alerting the faculty to the kinds of pretesting and counseling services available, the counseling/placement services could become more efficient service groups.

Employment by Industry

Nearly two-thirds (61.2%) of all male graduates and more than eight in every ten female graduates (85.5%) were employed in either the service sector of the economy or in some type of government agency (including the

¹It should be underscored that about one-third of the respondents to the survey chose to write some comment in the space provided at the end of the questionnaire. Of this group, about half wrote on either counseling or the job market.

military). Over 73% of the female graduates employed in the government sector were in an elementary or secondary education activity of some state government, compared to 39% for men.

At graduate level, the single largest proportion of the men with master's degrees was in state government, elementary or secondary education (30.9%). Over half of the men doctorates (56.0%) were in some type of post-secondary institution, while over 90% of the male first professionals were employed in either the health or legal service sectors or by the Federal government.

The distribution of industry employment by discipline area for bachelor's graduates is shown in Table 27. The employment flexibility of degrees in Business, Letters, Psychology and the Social Sciences is shown by the lack of concentration in any particular industry of graduates with these degrees. On the other hand, recipients of degrees in Education or Health Professions tend to be employed rather overwhelmingly in, respectively, state government, elementary or secondary education and health services.

Table 27. Industry Employment for Bachelor's Graduates from Selected Discipline Areas (Percentage Distribution)

Selected Discipline	Selected Industry									
	Manufacturing	Wholesale & Ret. Trade	Services			Fed. Gov.	State Gov. Elem/Sec.	Post-Sec.	Local Gov.	Other
			Banking	Health	Other					
Bio. Sciences	10.1%	15.1%	-	14.3%	11.6%	3.7%	21.0%	4.8%	-	19.4%
Business	16.0	16.4	19.8%	1.5	17.1	5.2	3.0	1.8	1.4%	19.2
Education	4.1	7.5	1.2	0.4	2.2	0.7	82.0	2.6	0.5	6.3
Health Prof.	-	3.7	-	76.0	3.8	1.2	2.8	-	0.4	12.1
Letters	8.2	14.8	13.4	2.0	10.4	2.2	22.7	2.7	-	23.6
Psychology	8.5	9.7	3.9	2.6	5.0	-	15.5	9.5	11.5	33.8
Soc. Sciences	7.8	7.2	7.0	3.0	9.3	8.0	22.8	2.9	8.6	23.4

Analysis by type of institution revealed that bachelor's graduates from the Ph.D.-granting campuses, both male and female, tended to be employed proportionately much less in elementary or secondary education than graduates from other campuses. This pattern in employment, along with other factors, would partially explain the higher salaries for graduates from the doctorate-granting universities.

Conclusions

Among the important findings of this chapter are:

(1) Nearly three-fourths of all graduates from The University's 16 campuses remained in North Carolina during their early careers. Graduates classified as non-residents were significantly less likely to remain in the State than residents, as were recipients of the doctorate.

(2) The assertion that recent college graduates seem to be heavily "underemployed" and dissatisfied with their jobs is not supported by the findings of this report. Over four of every five of the bachelor's graduates, for instance, noted that either they were employed in their major field of study or that they never planned to work in that area. Less than one in every ten graduates indicated that they were seeking alternative employment opportunities because they were dissatisfied with their present jobs.

(3) Estimated mean annual salaries ranged from slightly above \$8,000 for bachelor's graduates from the predominantly white baccalaureate-level campuses to nearly \$17,000 for the doctoral degree earners. Graduates of the historically black campuses earned slightly higher salaries than graduates of comparable predominantly white institutions, although the difference was not significant.

(4) Salary analysis by curriculum revealed that bachelor's graduates in Engineering and Health Professions tended to be rewarded at a higher rate than other graduates during early careers. On the other hand, discipline areas like Architecture, Communications, Fine Arts, Foreign Languages, Home Economics and Letters were characterized by relatively low starting salaries.

(5) On aggregate, male graduates earned nearly 40% more than female graduates. The overall mean annual earnings for all males were estimated at \$11,200 and at \$8,100 for females. This disparity is accentuated by the lack of many women among doctoral and first professional graduates, where salaries are highest. At the bachelor's level, nonetheless, men earned 35% more than women. The preponderance of females in relatively low-paying areas like Education and Fine Arts accounts for part of the differential.

(6) Within discipline areas, men graduates also earned significantly more than women graduates with the same degree. For instance, males with a bachelor's degree in Education were estimated to average nearly \$9,700 per year, or 25% more than females in this field with the bachelor's degree.

(7) Most graduates learned about their jobs either through direct contact with their employers or through friends and relatives. Between three-fourths and two-thirds felt that guidance counselors and placement officers were "not important at all" in providing job/career information, thus suggesting the need for further investigation on the usefulness and availability of these services. About 80-85% of the advanced degree recipients felt counselors and placement officers were not important sources of labor market or career information.

CHAPTER IV

FURTHER SCHOOLING, UNEMPLOYMENT AND OTHER ACTIVITIES

Introduction

The preceding sections have described in some detail the general characteristics of recent alumni from the 16 campuses of The University of North Carolina and have discussed the employment patterns of those gainfully employed in the labor market. What remains is an analysis and description of those graduates who were continuing their schooling in a formal sense and those who were unemployed or otherwise neither seeking work nor in graduate school. This chapter will discuss these groups.

Formal Schooling and Degrees Being Attempted

About 1,200 or 16.0% of the 7,500 bachelor's graduates in the population were as of Fall 1975 continuing their education on a full-time basis.¹ This compares with 7.1% of the master's, 1.8% of the doctor's and 4.4% of the first professional graduates. Table 28 shows the degrees that the Spring 1974 bachelor's graduates were attempting to obtain during Fall 1975 by institutional category.

Most of the 1974 bachelor's graduates enrolled in graduate schools were pursuing the master's degree although a large portion (35.7%) of the graduates from the Ph.D.-granting campuses were seeking some type of first professional degree. The majority of the 1974 master's graduates continuing their education in 1975 were enrolled in either a doctoral or first professional program. The number of 1974 doctoral

¹ Liberal arts bachelor's graduates, both males and females, were significantly more likely than non-liberal arts graduates to be continuing their education in Fall 1975. The figures were: 24% vs. 20% for males and 19% vs. 8% for females.

and first professional graduates seeking further degrees was insignificantly small. Overall, for all students indicating that their primary current activity in Fall 1975 was the continuation of their schooling, 6.6% were pursuing another bachelor's degree, 62.2% a master's, 8.8% a doctorate and 22.3% a first professional degree.

Table 28. Degree Currently Sought by 1974 Bachelor's Graduates Enrolled in School in 1975, by Institutional Type

Degree Trying to Obtain	Institutional Type				
	Ph.D.-Granting	Master's-Granting		Bachelor's-Granting	
		PB	PW	PB*	PW*
Bachelor's	8.6%	-	9.2%	-	-
Master's	48.4	80.5%	83.9	75.0%	69.9%
Doctor's	7.3	7.0	2.8	-	15.3
First Prof.	35.7	12.5	4.1	25.0	14.8
N =	623	137	333	33	60

*Based on relatively low numbers and estimates have therefore large standard errors

Over one-third (38.7%) of the bachelor's graduates continuing their formal education obtained their undergraduate degree at the same institution they were attending in Fall 1975.

Main Sources of Income

The single, most often cited main source of monetary support for students pursuing a degree in Fall 1975 was aid from family, as 24.6% chose this category. A close second was a teaching or research assistantship (21.7%). These proportions of course varied considerably

depending on the degree being pursued, as shown by Table 29. For instance, almost half of the students enrolled in some first professional program cited aid from family as their main source of support. Doctoral candidates, on the other hand, relied to a large degree (56.0%) on either fellowships or teaching/research assistantships.

Table 29. Main Source of Income for 1974 Graduates Continuing Their Education, by Degree Being Sought

Main Source of Income	Degree Being Sought				All
	Bachelor's	Master's	Doctor's	First Prof.	
Fellowship	-	9.5%	31.8%	5.1%	9.9%
Teaching/Research Asst.	-	31.5	24.2	-	21.7
Non-Academic Job	20.3%	11.7	3.4	-	8.9
Spouse's Job	21.6	12.7	7.5	14.7	12.9
Savings/Investments	16.0	2.2	-	8.0	4.2
Aid from Family	35.3	19.5	-	45.5	24.6
Personal Loan	-	1.9	16.7	4.5	3.7
Gov't. or Institutional Loan	6.8	4.7	-	20.7	8.0
Other	-	6.8	16.4	1.4	6.0
N =	84	791	112	284	1272

About two-thirds of all graduates continuing their formal education noted that their total income was under \$4,000 annually or \$330 per month (see Table 30). Doctoral candidates were estimated to average slightly more per year than candidates for other degrees (about \$4,600 annually for doctoral students compared to \$4,100 or \$4,200 for bachelor's,

master's and first professional students).

In terms of ultimate degree aspirations, males were more likely to set their educational goals at a higher level than females. Three-fourths of males but under two-thirds of the females hoped to obtain at some point either a doctorate or a first professional degree. The

Table 30. Total Annual Income for 1974 Graduates Continuing Their Formal Schooling in Fall 1975, by Degree Being Sought

Income Interval	Bachelor's*	Master's	Doctor's	First Prof.
Less than \$2500	39.9%	41.2%	26.9%	50.4%
\$2500-3999	28.9	24.5	42.7	12.0
\$4000-5999	7.3	14.3	12.7	18.6
\$6000-10,000	30.8	13.0	5.1	15.0
More than \$10,000	-	7.1	12.5	4.0
N =	78	785	112	284
Estimated Mean Income	\$4,140	\$4,280	\$4,570	\$4,010

*Estimates based on rather small members; standard errors are relatively large

difference here resulted from the fact that while nearly 30% of the males noted a desire to obtain a first professional degree, about 12.7% of the women so indicated. Conversely, 36% of the females but only 23.4% of the males indicated that the master's was to be their terminal degree.

Unemployment and Other Activities

Under 7.5% or about 670 of the population of 9,000 graduates indicated that they were neither gainfully employed nor continuing

their formal schooling. Of this total, over 75% or 506 were female. It would be misleading, obviously, to think that all in this group were unemployed and actively seeking work. That this is not a fact is shown in Table 31.

Table 31. Unemployed Graduates (Seeking and Not Seeking Work) from The University of North Carolina by Sex

	Not Seeking Work		Actively Seeking Work	
	%	(N)	%	(N)
Female	26.8%	(136)	73.2	(370)
Male	17.2	(28)	82.8	(136)
All	24.5%	(164)	75.5%	(506)

There are, as seen above, some 500 graduates among the 670 who were neither employed nor in school but who were actively seeking work in Fall 1975. This implies an overall unemployment rate of 6.7% of those in the labor force (the labor force is comprised of those gainfully employed plus those unemployed and actively seeking work) during Fall 1975. For comparison, the national unemployment rate for persons 16-24 years of age with four years or more of college was 6.4% during March 1975.¹ For young persons with a high school degree only, the national unemployment rate was 16.1% and for those with 1 to 3 years of college, 10.8%.² Thus, the unemployment rate of recent graduates from constituent campuses of The University is in the aggregate the same as that for young college graduates nationally, and much lower than that

¹ B. Whitmore, "Educational Attainment of Workers, March 1975," Special Labor Force Report, Monthly Labor Review, February 1976, pp.46-48.

² Ibid.

for persons with lower educational attainment levels.

The overall unemployment rate for black graduates of The University system was 10.3%, again almost identical to the national average of 10.2% for recent black college graduates.¹ The white unemployment rate for graduates of UNC campuses was 6.0%, compared to 6.1% nationally. For young males nationally with a college degree, the proportion out of work was 6.9% and for females 6.0%.² For male UNC graduates the unemployment was 3.7% and for females 9.7%. Female graduates of The University, therefore, were significantly more likely than their national counterparts to be unemployed and actively seeking employment. The converse is true for male graduates. Table 32 encapsulates the unemployment statistics discussed above.

Table 32. Unemployment Rates* for Graduates from The University of North Carolina and for Recent (aged 16-24) College Graduates at the National Level, by Ethnic Background and Sex

	U.S.	N.C.
Total	6.4%	6.7%
Blacks	10.2	10.3
Whites	6.1	6.0
Female	6.0	9.7
Male	6.9	3.7

*Defined as the number unemployed, actively seeking work divided by the number in the labor force times 100. The labor force includes those gainfully employed and those not employed but actively seeking work

¹Ibid.

²Unpublished data, Bureau of Labor Statistics, Washington, D.C.

Graduates from predominantly black institutions tend to be unemployed at a higher rate than those from the predominantly white campuses, as seen in Table 33. This pattern is true for both males and females, although it is more noticeable for men.

Table 33. Unemployment Rates for Graduates from The University of North Carolina by Sex and Institutional Type

Sex	Institutional Type		N
	Pred. Black	Pred. White	
Males	6.9%	3.3%	135
Females	11.8	9.0	369
Total	10.4%	6.0%	
N=	134	370	

Finally, about half of the females not working in the labor market and not seeking work noted that child-rearing or pregnancy prevented them from working. An additional 20% of these females indicated that they were discouraged from past experiences and did not think they could find a job even if they started searching. For males, nearly two-thirds of those neither working nor seeking work failed to give a particular reason for their inactivity, although one-fourth did indicate that they did not wish to work at the time. It should be noted that this group of males neither working nor seeking work comprised 0.6% of all males, whereas the females in this category constituted about 3.1% of all females.

Conclusions

This chapter on graduates continuing their formal schooling or otherwise not gainfully employed has revealed certain important patterns:

(1) About 16% of all the 1974 bachelor's graduates were continuing their education in a formal sense in Fall 1975. Most of these were seeking a master's degree although a large portion (35.7%) of the bachelor's graduates from the three Ph.D.-granting campuses were enrolled in some type of first professional degree. The majority of the 1974 master's graduates continuing their education in 1975 were enrolled in either a doctoral or first professional program.

(2) The single, most often cited main source of monetary support for students pursuing a degree in Fall 1975 was aid from family, as 25% chose this category. A close second was a teaching or research assistantship.

(3) Males continuing their education in 1975 were more likely to set their educational goals at a higher level than females. Over three-fourths of males hoped to obtain at some point either a doctorate or a first professional degree, compared to under two-thirds of the females.

(4) The overall unemployment rate for 1974 graduates of The University system was 6.7%, nearly equal to the national rate of 6.4% for recent college graduates (during March 1975). The unemployment rate for black graduates from The University system was 10.3%, almost identical to the national average of 10.2% for young black college

graduates. The white unemployment rate was 6.1% nationally and 6.0% for graduates from The University.

(5) Female graduates from The University had a higher unemployment rate than females nationally (9.7% vs. 6.0%), while the converse was true for males (3.7% for graduates of UNC compared to 6.9% nationally).

CHAPTER V

CONCLUSIONS, POLICY AND RESEARCH IMPLICATIONS

Conclusions

This initial, systematic attempt at quantifying some of the outcomes of the public higher education system in North Carolina has yielded substantial and quite useful information. The preceding chapters have set forth the general characteristics of recent alumni (Spring 1974) of the 16 campuses of The University of North Carolina as well as their employment and further schooling activities, and over the course of this primarily descriptive effort certain overall conclusions thus became apparent. Among the more salient ones are:

(1) Graduates of constituent institutions of The University of North Carolina, contrary to national reports and press accounts about college graduates in general, seemed to be well satisfied with their educational experiences and with their jobs. White graduates seemed to be slightly more satisfied with their employment than black graduates. Nearly all graduates indicated that they were moderately to highly satisfied with their choice of an institution and over nine in ten reported that they were satisfied with their chosen area of study. There were no differences in satisfaction with major between liberal arts graduates and non-liberal arts graduates. In addition, over four out of every five of the bachelor's graduates noted that they were either employed in their major field of study, or that they never planned to work in that area.

(2) The unemployment rate for recent graduates of constituent

campuses of The University is in the aggregate the same as that for young college graduates nationally, and much less than that for persons with lower educational attainment levels. White graduates of The University had an unemployment rate of 6.0%, compared to 10.3% for black graduates.

(3) Significant and sizable earnings and employment differentials exist between male and female graduates of The University. At the bachelor's level, for instance, men graduates earned 35% more than women graduates. The preponderance of females in relatively low-paying areas such as Education and Fine Arts accounts for part of the difference. Within discipline areas, however, men graduates also earned significantly more than did women graduates with the same degrees. Female graduates of The University, moreover, had a higher unemployment rate than did comparable females nationally (9.7% for UNC female graduates vs. 6.0% for female graduates nationally). The converse was true for males (3.7% for UNC graduates compared to 6.9% nationally).

(4) Bachelor's graduates of the five predominantly black institutions (who in the main were black) reported starting salaries either the same as or slightly higher than the salaries of graduates of the traditionally white master's- and bachelor's-granting campuses. Black graduates of traditionally white institutions earned nearly 20% more than black graduates of the historically black campuses. White graduates of the historically black campuses also earned substantially more than other graduates of the same black institutions. White graduates of the predominantly black institutions, however, tended to be older than other students at those campuses and this would explain some of the differential

in earnings.

(5) Most graduates learned about their jobs either through direct contact with their employers or through friends and relatives. Between two-thirds and three-fourths felt that guidance counselors and placement officers were "not important at all" in providing job/career information. This was particularly the case for recipients of the more advanced degrees, as some 80-85% of this group felt counselors and placement officers were not important sources of labor market or career information.

(6) About 16% of all the 1974 bachelor's graduates were continuing their education in a formal sense in Fall 1975. Males continuing their education were more likely to set their educational goals at a higher level than females.

(7) Students completing their baccalaureate degrees scored higher as a group on standardized tests (like the SAT) than students who did not graduate. Moreover, institutional variation in average SAT scores was found to be extreme. Three-fourths of bachelor's graduates of the Ph.D.-granting level campuses scored above 1,000 on the SAT, compared to less than 6% of those from the predominantly black institutions.

(8) Nearly nine in ten graduates were classified as North Carolina residents for tuition purposes, although not all of these were graduated from North Carolina high schools. Conversely, nearly one-fifth of those classified as non-residents were graduated from a North Carolina high school.

(9) The total family incomes of parents of graduates of the 16

campuses of The University were generally lower than the incomes of comparable families nationally. This suggests that the 16 public institutions of higher education in North Carolina serve a student body which on aggregate comes from below-average income families. The data on the education of fathers of bachelor's graduates also showed that over three-fourths of the fathers were not college graduates, thus indicating the substantial number of "first generation" college graduates trained by The University.

Policy Implications

It is evident from the resulting conclusions listed above and throughout this report that the heavy emphasis across The University of North Carolina in teacher education needs careful attention and study. A substantial portion of the male-female earnings and employment variances, and part of the differences in levels of satisfaction with jobs between blacks and whites, may hinge crucially on the disproportionate concentration of women and blacks in teacher training programs or on the quality of such programs. Fortunately, the long-range plan of The University anticipated this need by calling for the development and implementation of a continuing process for review, analysis, and evaluation of programs and operations within The University.¹ The plan specifically indicated the necessity of a comprehensive review and evaluation of teacher education programs during 1976-77, and that review is now in progress.

¹ See The University of North Carolina -- Long-Range Planning, 1976-1981, (Chapel Hill: The University of North Carolina, 1976), Chapter 5.

The findings also suggest the importance of further evaluation on the availability and effectiveness of placement offices and counseling and guidance services across The University, and of the extent to which the services and resources of these offices are generally known to students. The administrative structure of these services should be examined as part of any evaluation. A potentially fruitful area of inquiry here may be the increased use of faculty members in the placement and career guidance processes.

Future Research

This report has demonstrated that for a modest investment, very useful and valuable information can be obtained from recent graduates of constituent institutions of The University. Therefore, on the agenda for further research is the desirability of continuation of similar longitudinal studies not only at the State-wide, but also at the institutional and departmental level. While it would not be worthwhile for the General Administration of The University to follow up each graduating class, it may be feasible for particular campuses to do so during alternate years. All such institutional efforts, however, should be centrally coordinated to achieve comparability of data and maximum utilization of the information collected.

Regional contacts should be further developed to investigate the extent to which other states have similar information for comparative purposes. To date, however, very few states have attempted systematic follow-ups on their graduates. Illinois, for example, conducted in 1974

a survey of graduates of the three campuses of The University of Illinois,¹ and the University of Alaska attempted a survey of alumni as part of its academic development process,² but these studies did not collect very detailed information and/or were not as wide in scope as the survey reported herein.

Finally, more sophisticated research is needed on the data described in this report. The potential exists for dissertation or thesis papers and this possibility should be explored so long as the confidentiality of the respondents is strictly maintained. In particular, the male-female and the black-white employment differences would profit from expanded research, as would a comparison of employment and job satisfaction patterns between liberal arts and non-liberal arts graduates.

¹For a description of the Illinois Survey, see Parrish, J.B., and F.L. Duff, "Job Experience of College Graduates: A Case Study," Quarterly Review of Economics and Business, Winter 1975, Vol.15, No.4, pp. 25-36.

²See Academic Development Plan for the University of Alaska, (College, Alaska: University of Alaska, 1975), p.392.

APPENDICES

THE UNIVERSITY OF NORTH CAROLINA

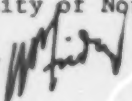
General Administration

CHAPEL HILL 27514

WILLIAM FRIDAY
President

MEMORANDUM

TO: A Selected Sample of May 1974 Graduates from the Sixteen Campuses
of The University of North Carolina

FROM: William Friday 

Ten thousand students who graduated from the sixteen campuses of The University of North Carolina in the Spring of 1974 participated in a survey. As one of a small sample from that group, you are invited to participate in a follow-up study. The purpose of this survey is to gather information about recent college graduates that can be used in dealing with the problem of what types of educational services need to be provided for future generations of college students in North Carolina. The attached questionnaire represents a cooperative effort among the constituent institutions of The University of North Carolina to find out what happens to college graduates in the period following the completion of their degrees.

With your help we will be able to gain useful insight into the variety of experiences that college graduates encounter throughout their careers. Following students through a period of time after they leave their respective campuses will make possible a series of longitudinal studies that will give this unique project special value to those who are called upon to make decisions in determining educational policies.

The success of this study depends on the broad participation of those chosen in the small, randomly selected sample. For this reason, I urge you to complete the questionnaire promptly and return it in the attached self-addressed and stamped envelope. The confidentiality of your response is assured.

Thank you for your cooperation.

Attachments

A SURVEY OF SPRING 1974 GRADUATES FROM THE 16 CAMPUSES OF THE UNIVERSITY OF NORTH CAROLINA

INTRODUCTION

Your name was randomly chosen from a list of students who responded to a questionnaire in spring 1974 and who were graduated from one of the 16 constituent campuses of The University of North Carolina in May 1974.

Only about 2 000 students (out of a possible 10,000 who participated in last spring's survey) were chosen for this follow-up, so *your reply is very important.*

PURPOSE

This follow-up is part of a continuing study (conducted jointly by your university and the General Administration of the sixteen-campus University of North Carolina) designed to ascertain and quantify (1) what college graduates do upon leaving the campuses and (2) what college graduates think about certain aspects of their education.

IMPORTANT NOTE

All information from this survey is confidential and will be processed largely by computer. Your response will be used purely for planning and research, and individuals will not be identified in any analysis of the data.

DIRECTIONS

There are four (4) sections to this survey. You are requested to respond to Section A *and* to either Section B, C, or D, depending on your current status. If you are currently working, please answer sections A and B *only* and return to us; if you are in school continuing your formal education, please answer sections A and C *only*; and if you are doing something other than working or studying, please answer sections A and D *only*.

Do not complete more than two (2) sections, including Section A. A stamped, self-addressed envelope is attached for your convenience. *Please return the completed questionnaire as soon as possible.*

SURVEY OF 1974 GRADUATES

SECTION A (THIS SECTION IS TO BE COMPLETED BY EVERYONE.)

Note: All information from this survey is strictly confidential and will be processed largely by computer.

For follow-up purposes, please print the following information:

Name: _____

If name has changed since spring 1974, please also give prior name(s) below:

Social Security Number: _____

Address corrections: Please make certain this is an address where you can be reached in the future:

City State ZIP

A-1) Your ethnic group

- (1) ☐ Black
- (2) ☐ White
- (3) ☐ Other

A-2) Sex-Marital Status

- (1) ☐ Male-single
- (2) ☐ Female-single
- (3) ☐ Male-married
- (4) ☐ Female-married

A-3) Parents' Education

Mother Father

- (1) ☐ ☐ Some high school or less
- (2) ☐ ☐ High school graduate
- (3) ☐ ☐ Some college
- (4) ☐ ☐ College graduate
- (5) ☐ ☐ More than 4 years of college

A-4) Your parents' occupation

(Please be specific.)

Mother _____

Father _____

A-5) Where did you live while growing up?

(Check only one.)

- (1) ☐ On a farm or town of less than 50,000
- (2) ☐ Town of 50,000 to 200,000 people
- (3) ☐ In suburb of large city
- (4) ☐ In a large city (more than 200,000)

A-6) How many brothers and sisters do you have?

A-7) Location of high school you were graduated from:

City State

A-8) Please check your parents' total annual family income for 1974.

- (1) ☐ Less than \$6,000
- (2) ☐ \$6,000 - \$10,000
- (3) ☐ \$10,001 - \$15,000
- (4) ☐ \$15,001 - \$20,000
- (5) ☐ \$20,001 - \$25,000
- (6) ☐ More than \$25,000

A-9) Were you classified as a N.C. resident for tuition purposes while enrolled at your institution?

- (1) ☐ Yes
- (2) ☐ No

A-10) Please indicate with a check your overall satisfaction with:

- | Your Institution | Your Major Study Area |
|------------------------------|---|
| (1) ☐ | ☐ Highly satisfied |
| (2) ☐ | ☐ Moderately satisfied |
| (3) ☐ | ☐ Dissatisfied |
| (4) ☐ | ☐ Very dissatisfied |

A-11) Did you live with your parents during most of your collegiate studies?

- (1) ☐ Yes
- (2) ☐ No

A-12) Please indicate your academic standing upon graduation:

- (1) ☐ Mostly A's, some B's (3.5-4.0)
- (2) ☐ Mostly B's, some A's (3.0-3.4)
- (3) ☐ Mostly B's, some C's (2.5-2.9)
- (4) ☐ Mostly C's, some B's (2.0-2.4)

A-13) Please indicate your combined (verbal and math) SAT scores:

- (1) ☐ 400-600
- (2) ☐ 600-800
- (3) ☐ 800-1,000
- (4) ☐ 1,000-1,200
- (5) ☐ 1,200-1,400
- (6) ☐ 1,400-1,600
- (7) ☐ Did not take SAT's in high school

A-14) Please check the item which describes your primary current activity (check only one):

- (1) ☐ Gainfully employed in labor market
Go To Section B
- (2) ☐ Continuing formal education
Go To Section C
- (3) ☐ Other activity (e.g., unemployed, housework) **Go To Section D**

SECTION B (PLEASE COMPLETE THIS SECTION *ONLY* IF YOU CHECKED IN ITEM A-14 THAT YOUR PRIMARY CURRENT ACTIVITY WAS GAINFUL EMPLOYMENT.)

B-1) Location of your present job (or headquarters location of your company, if you travel extensively).

City _____ State _____

B-2) Specific name of industry in which you currently work (e.g., manufacturing-textiles; or, state government—elementary education; or, banks and credit agencies; or, legal services).

B-3) Please check the item that best describes your employment status:

- (1) ☐ Full-time, year-round employment
(2) ☐ Part-time, or temporary

B-4) How related is your present job to your last college degree?

- (1) ☐ Very related
(2) ☐ Somewhat related
(3) ☐ Not related at all

B-5) How related is your current job to your anticipated, permanent career?

- (1) ☐ Very related and important to my career plans
(2) ☐ Somewhat related
(3) ☐ Not related at all to my long-range plans

B-6) How satisfied are you with your present job?

- (1) ☐ Well satisfied and would *not* consider leaving it.
(2) ☐ Satisfied but would consider a more desirable one.
(3) ☐ Dislike job and am, or will be, seeking alternatives.
(4) ☐ Not sure at this time.

B-7) Please check below your current annual income and your spouse's income (if spouse is gainfully employed). Recall that this is strictly confidential. (Check one income category under each column.)

Yours	Spouse's
(1) ☐	☐ Less than \$6,000
(2) ☐	☐ \$6,000-\$7,000
(3) ☐	☐ \$7,001-\$8,000
(4) ☐	☐ \$8,001-\$9,000
(5) ☐	☐ \$9,001-\$10,000
(6) ☐	☐ \$10,001-\$11,000
(7) ☐	☐ \$11,001-\$12,000
(8) ☐	☐ \$12,001-\$13,000
(9) ☐	☐ \$13,001-\$14,000
(10) ☐	☐ \$14,001-\$15,000
(11) ☐	☐ \$15,001-\$20,000
(12) ☐	☐ More than \$20,000

B-8) How did you learn about your current job? (Pick only one)

- (1) ☐ Was already working in it
(2) ☐ College placement office
(3) ☐ College faculty member(s)
(4) ☐ Friends and relatives
(5) ☐ Direct contact with employer
(6) ☐ Professional placement office
(7) ☐ Other (please specify) _____

B-9) How many hours per week do you usually work at your job?

B-10) Have you held more than one job since Spring 1974?

- (1) ☐ Yes (2) ☐ No

B-11) Are you currently taking courses at an institution of higher education, in addition to being employed?

- (1) ☐ Yes (2) ☐ No

B-12) How many weeks do you work each year at your current job (include paid sick leave and vacation time as work)?

- (1) ☐ 48 weeks or more (3) ☐ 15-34 weeks
(2) ☐ 35-47 weeks (4) ☐ 1-14 weeks

B-13) How important has each of the following sources been in providing you with information about either your job or your anticipated career? (Check one for each source)

	(1) Quite Important	(2) Slightly Important	(3) Not Important At All
(1) Family and Friends			
(2) Guidance Counselors			
(3) Placement Officers			
(4) College Faculty			
(5) Actual Employment in the field of work			

B-14) If you are employed outside your major field of study, please indicate main reason:

- (1) ☐ Am employed in my field
 (2) ☐ Never planned to work in that field
 (3) ☐ Could not find appropriate job in that area
 (4) ☐ Developed a new career interest
 (5) ☐ Not sure about this question. Am graduate of a field of study (e.g., philosophy) which is difficult to relate to a specified job.

(If you have completed Sections A and B, you have finished. Please return the completed sections to us in the attached, stamped envelope.)

(NOTE THAT ON THE LAST PAGE OF THIS QUESTIONNAIRE THERE IS SPACE FOR COMMENTS.)

SECTION C (PLEASE COMPLETE THIS SECTION ONLY IF YOU CHECKED IN ITEM A-14 THAT YOUR PRIMARY CURRENT ACTIVITY WAS THE CONTINUATION OF YOUR FORMAL EDUCATION.)

C-1) What degree are you currently trying to obtain?

- (1) ☐ Bachelors (3) ☐ Doctors (Ph.D., Ed.D., etc.)
 (2) ☐ Masters (4) ☐ 1st Professional (M.D., D.D.S., J.D., etc.)
 Field of study (please be specific) _____

C-2) Name and location of institution you are currently attending

Name _____
 City _____ State _____

C-3) Did you obtain your undergraduate degree from the same institution you are now attending?

- (1) ☐ Yes (2) ☐ No

C-4) What is your main source of income this current year? (please check only one)

- (1) ☐ Fellowship (6) ☐ Investments
 (2) ☐ Teaching/Research Assistantship (7) ☐ Aid from family
 (3) ☐ Nonacademic job (8) ☐ Personal loan
 (4) ☐ Spouse's job (9) ☐ Government or institutional loan
 (5) ☐ Savings (10) ☐ Other

C-5) What is your total annual income? (all sources; do not include your parents' income)

- (1) ☐ Less than \$2,500 (6) ☐ \$6,000-\$6,999
 (2) ☐ \$2,500-\$2,999 (7) ☐ \$7,000-\$7,999
 (3) ☐ \$3,000-\$3,999 (8) ☐ \$8,000-\$8,999
 (4) ☐ \$4,000-\$4,999 (9) ☐ \$9,000-\$9,999
 (5) ☐ \$5,000-\$5,999 (10) ☐ More than \$10,000

C-6) What is the highest degree you ultimately hope to obtain?

- (1) ☐ Bachelors (3) ☐ Doctors
 (2) ☐ Masters (4) ☐ 1st Professional

(SECTION C continues on back page)

C-7) Are you continuing your formal education to: (check one for each item)

	(1) Strongly Agree	(2) Agree with Reservations	(3) Disagree with Reservations	(4) Strongly Disagree
(1) Satisfy job requirements?				
(2) Enter a prestigious occupation?				
(3) Increase earning power?				
(4) Contribute to change of society?				

(If you have completed Sections A and C, you have finished. Please return these two sections to us in the enclosed stamped envelope.)

(NOTE THAT ON THE LAST PAGE OF THIS QUESTIONNAIRE THERE IS SPACE FOR COMMENTS.)

SECTION D (PLEASE COMPLETE THIS SECTION ONLY IF YOU CHECKED IN ITEM A-14 THAT YOUR PRIMARY CURRENT ACTIVITY WAS NEITHER GAINFUL EMPLOYMENT NOR CONTINUATION OF FORMAL EDUCATION.)

D-1) What is your current activity?

- (1) ___ Unemployed, and actively seeking employment (Answer D-2 below)
 (2) ___ Unemployed, not seeking employment (Answer D-3 below)

D-2) If you are currently seeking employment, how long have you been searching?

- (1) ___ Less than 30 days
 (2) ___ Between 30 and 90 days
 (3) ___ More than 90 days

D-3) If not seeking employment, please indicate primary reason:

- (1) ___ Unable to work for health reasons (other than pregnancy)
 (2) ___ Do not want work at this time
 (3) ___ Spouse's income is sufficient
 (4) ___ Child-rearing or pregnancy prevents me from working
 (5) ___ Am discouraged from past experiences, and do not think I will find a job even if I start searching
 (6) ___ Other (please specify) _____

D-4) Do you expect to:

- (1) Continue formal education within 12 months?
 1. ___ Yes
 2. ___ No
 (2) Be gainfully employed within 12 months?
 1. ___ Yes
 2. ___ No

(If you have completed Sections A and D, you have finished. Please return the completed sections to us in the enclosed, stamped envelope.)

THE SPACE BELOW PROVIDES YOU AN OPPORTUNITY TO WRITE ANY COMMENTS YOU MAY WISH ABOUT ANY ASPECT OF YOUR EDUCATION. THANK YOU.

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VARIANCE OF ESTIMATES

The formula used for computing the variances (and the standard errors) in this report is as follows:

$$V(\bar{Y}_{st}) = \sum_{h=1}^L w_h^2 \frac{S_h^2}{N_h}$$

and

$$SE(\bar{Y}_{st}) = \sqrt{V(\bar{Y}_{st})}$$

Where $V(\bar{Y}_{st})$ = Variance of $\bar{Y}_{st}$ (estimate of population mean)

w_h^2 = relative weight of h^{th} stratum, squared

N_h = size of the h^{th} stratum

S_h^2 = variance of the h^{th} stratum

As an estimate of the population mean $\bar{Y}_{st}$ is used, where

$$\bar{Y}_{st} = \frac{\sum_{h=1}^L N_h \bar{Y}_h}{N} = \sum_{h=1}^L w_h \bar{Y}_h$$

and

N_h = size of the h^{th} stratum

$\bar{Y}_h$ = sample mean in the h^{th} stratum

$N = \sum_{h=1}^L N_h$ = size of population

$w_h = N_h / N$ = relative weight of the h^{th} stratum.

APPENDIX 3

Appendix Table 1. Percentage Distribution of Salaries (as of Fall 1975) of Bachelor's Graduates for Ph.D.-Granting Institutions of The University of North Carolina, by Discipline Area

Discipline Area	Salary Interval						N
	Less than \$8,000	8-9,000	9-10,000	10-11,000	11-12,000	More than 12,000	
1) Agriculture	23.2%	7.2%	23.2%	34.8%	-	11.6%	102
2) Architecture	68.8	20.8	-	-	10.4%	0.1	57
3) Area Studies*	-	-	50.0	-	-	50.0	12
4) Bio.Sciences	38.3	46.0	15.7	-	-	-	75
5) Business	13.9	17.4	24.3	18.4	11.4	14.6	163
6) Communications	69.7	12.8	-	-	-	17.5	66
7) Computer Sciences*	-	20.0	-	-	-	80.0	29
8) Education	16.1	67.2	13.4	-	-	3.3	348
9) Engineering	-	1.5	4.5	7.6	19.7	66.7	389
10) Fine Arts*	26.2	31.9	15.6	16.3	-	-	35
11) Foreign Lang.*	100.0	-	-	-	-	-	23
12) Health Professions	13.7	6.8	34.8	9.3	5.1	30.3	246
13) Home Econ.	69.2	30.8	-	-	-	-	71
14) Law	Not Applicable						
15) Letters	67.1	7.8	15.0	5.1	-	5.0	113
16) Math	17.7	22.8	16.9	29.6	4.0	9.0	97
17) Physical Sciences*	-	19.2	15.6	46.5	18.7	-	38
18) Psychology	41.3	21.4	9.6	21.4	2.8	3.5	60
19) Public Affairs*	21.1	78.9	-	-	-	-	7
20) Social Sciences	38.6	20.2	11.1	9.3	2.2	18.6	264
All Disciplines	25.3%	22.6%	14.1%	9.7%	6.2%	22.0%	2,195

*Estimated percentages for these discipline areas are based on small numbers and have relatively large standard errors. Caution should therefore be used with these numbers.

Appendix Table 2. Percentage Distribution of Salaries (as of Fall 1975) of Bachelor's Graduates for Traditionally Black Master's-Granting Institutions of The University of North Carolina, by Discipline Area

Discipline Area	Salary Interval						N
	Less than \$8,000	8-9,000	9-10,000	10-11,000	11-12,000	More than \$12,000	
Agriculture	-						
Architecture	-						
Area Studies	-						
Bio. Sciences*	100.0%	-	-	-	-	-	10
Business	40.3	9.8%	21.9%	9.8%	8.6%	9.6%	176
Communication	-						-
Computer Sci.	-						-
Education	9.0	81.8	9.2	-	-	-	105
Engineering*	-	-	-	-	-	100.0	15
Fine Arts*	-	100.0					10
Foreign Lang.*	-						-
Health Prof.	45.4	16.3	12.8	12.8	12.7	-	59
Home Ec.*	-	-	-	-	-	100.0	8
Law	-						
Letters	-						
Library Sc.	-						
Mathematics*	-	-	-	-	43.9	56.1	17
Physical Sc.	-						
Psychology	-						
Public Affairs	-						
Social Sciences	23.2	46.3	10.2	10.2	-	10.1	74
All Disciplines	29.3%	32.6%	13.1%	6.9%	6.3%	11.8%	482

*Estimated percentages for these discipline areas are based on small numbers and have relatively large standard errors. Caution should therefore be used with these numbers.

Appendix Table 3. Percentage Distribution of Salaries (as of Fall 1975) of Bachelor's Graduates for Traditionally White Master's-Granting Institutions of The University of North Carolina, by Discipline Area

Discipline Area	Salary Interval						N
	Less than \$8,000	\$8-9,000	9-10,000	10-11,000	11-12,000	More than \$12,000	
Agriculture	-						
Architecture	-						
Area Studies	-						
Bio. Sciences*	-	47.3%	-	28.9%	-	23.8%	28
Business	21.6%	19.9	11.5%	14.9	20.1%	12.0	389
Communication	-						
Computer Sc.	-						
Education	22.1	62.3	10.0	1.1	1.1	3.4	526
Engineering	-	-	17.5	-	37.2	45.3	71
Fine Arts	72.5	16.5	8.7	2.3	-	-	77
Foreign Lang.*	89.5	10.5	-	-	-	-	22
Health Prof.	8.2	37.7	43.1	6.1	-	4.9	140
Home Ec.	57.7	17.5	16.0	-	8.8	-	79
Law	-						
Letters	53.3	25.1	11.3	5.1	5.3	-	126
Library Sc.*	22.1	77.9	-	-	-	4.3	26
Mathematics	-	45.4	24.9	12.5	12.9	-	54
Physical Sc.*	-	58.2	13.1	15.7	13.0	-	44
Psychology	33.9	11.8	10.9	20.6	22.8	-	59
Public Affairs	26.4	24.8	31.8	8.5	8.5	-	79
Social Sciences	31.7	29.0	13.0	17.4	3.0	5.9	231
All Disciplines	26.7%	35.6%	14.6%	8.3%	8.4%	6.5%	1,949

*Estimated percentages for these discipline areas are based on small numbers and have relatively large standard errors. Caution should therefore be used with these numbers.

Appendix Table 4. Percentage Distribution of Salaries (as of Fall 1975) of Bachelor's Graduates for Traditionally Black Bachelor's-Granting Institutions of The University of North Carolina, by Discipline Area

Discipline Area	Salary interval						N
	Less than \$8,000	\$8-9,000	9-10,000	10-11,000	11-12,000	More than \$12,000	
Bio.Sciences*	13.9%	-		86.1%	-	-	11
Business	33.4	18.6%	16.2%	16.8	-	13.0%	64
Education	37.2	55.6	1.8	-	5.4%	-	198
Fine Arts*	-	-	100.0	-	-	-	10
Health Prof.*	41.2	41.1	-	-	17.7	-	20
Letters*	100.0			-			21
Mathematics*	-	50.0	-	-	-	50.0	22
Social Sciences	26.3	42.7	25.6	-	1.4	4.0	148
All Disciplines	33.7%	41.4%	12.4%	4.2%	3.3%	5.1%	494

*Estimated percentages for these discipline areas are based on small numbers and have relatively large standard errors. Caution should therefore be used with these numbers.

Appendix Table 5. Percentage Distribution of Salaries (as of Fall 1975) of Bachelor's Graduates for Traditionally White Bachelor's-Granting Institutions of The University of North Carolina, by Discipline Area

Discipline Area	Less than \$8,000	8-9,000	9-10,000	10-11,000	11-12,000	More than \$12,000	N
Bio.Sciences*	41.8%	20.9%	37.4%	-	-	-	30
Business*	-	-	23.7	5.3%	23.7%	47.3%	26
Education	38.0%	47.1	9.7	1.8	-	3.4	140
Fine arts*	84.0	-	8.0	-	-	8.0	30
Foreign Lang.*	-	-	100.0	-	-	-	6
Home Ec.*	100.0	-	-	-	-	-	11
Letters*	65.8	34.2	-	-	-	-	18
Mathematics*	-	-	100.0	-	-	-	5
Physical Sc.*	100.0	-	-	-	-	-	11
Psychology*	-	100.0	-	-	-	-	20
Social Sciences	44.8	29.2	13.7	-	-	12.3%	91
Interdisciplinary*	-	-	100.0	-	-	-	9
All Disciplines	41.6%	31.5%	16.6%	1.0%	1.6%	7.7%	398

*Estimated percentages for these discipline areas are based on small numbers and have relatively large standard errors. Caution should therefore be used with these numbers